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ABSTRACT

In response to a request from the Department of Staff Development in Montgomery County, Maryland, an assessment was conducted of the county's Teacher Competency (TC) Program. The evaluation sought to determine the degree to which this inservice teacher training program addresses the factors identified in recent literature as promoting effective teaching: (1) teacher expectations, (2) classroom management skills and engaged time/academic learning time, (3) direct instruction, and (4) teacher decision making. Every course in the TC Program was found to address at least one of these factors. Further, it appeared that the Program's courses provide teachers with realistic experiences for applying concepts identified in the literature as being important, such as "hands on" self-analysis, and practicum-type activities. A number of areas, however, were found to require improvement. Therefore, the following recommendations were offered: (1) teacher expectations of minority and linguistically different students should be more fully addressed in TC courses; (2) TC course reference lists should include more research studies on effective teaching practices; and (3) concepts relating to academic learning time should be incorporated into additional Program courses. (Author/GC)

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Assessment of the MCPS Teacher Competency Program In Light of Recent Research Literature on Effective Teaching Practices

October 1982

Edward Andrews
Superintendent of Schools

Prepared by the Department of Educational Accountability

UD 022 615

MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

ASSESSMENT OF THE MCPS TEACHER COMPETENCY PROGRAM IN LIGHT OF RECENT RESEARCH LITERATURE ON EFFECTIVE TEACHING PRACTICES

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EXECUTIVE SUMMARY

ASSESSMENT OF THE MCPS TEACHER COMPETENCY PROGRAM IN LIGHT OF RECENT RESEARCH LITERATURE ON EFFECTIVE TEACHING PRACTICES

INTRODUCTION

In response to a request from the Department of Staff Development, the Department of Educational Accountability (DEA) conducted an assessment of the MCPS Teacher Competency (TC) Program in light of recent research findings regarding effective teaching skills.

The overall focus of the study was to determine the degree to which the TC Program includes factors found by the research to promote effective teaching.[1] To do this, the following questions were addressed:

- What are the factors shown by recent research literature to promote effective teaching?
- What are the major emphases of the courses in the TC Program?
- Which TC courses, if any, contain emphases that relate to factors associated with effective teaching practices?
- What are the resultant conclusions and recommendations concerning the MCPS Teacher Competency Program?

In interpreting the findings, it must be kept in mind that the study was limited to a detailed examination of TC Program manuals and did not include observation of actual course implementation.

FINDINGS

A review of the literature on effective teaching identifies five related major factors as promoting student learning. These factors are the following:

1. Teacher expectations
2. Classroom management skills
3. Engaged time/academic learning time
4. Direct instruction
5. Teachers' decision making

Some cautions should, however, be noted about research findings on effective teaching practices. Research designs themselves may not be those from which

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1. It is important to note here that this study did not include determining whether all aspects and information in the TC Program were up-to-date but focused only on examining whether major factors associated with effective teaching practices were present in the program.

definite cause-effect relationships can be made. In many of the studies, students came from a low socioeconomic background; and findings may not truly be general ones that apply to other types of students. Some of the studies were a review of previous studies--or reviews of reviews--rather than original research. Nevertheless, the correlational data produced by these research findings, though nonconclusive, contain several suggestions which can still be useful when the cautions are taken into account.

Examination of the TC Program in light of recent research reveals that the program generally reflects the current research findings. Every course in the TC Program addresses at least one of the major factors which the literature associates with effective teaching practices. Four TC courses emphasize teaching practices related to teacher expectations; five courses, management skills; one course, engaged time/academic learning time; and six courses, direct instruction components. All of the TC courses contain emphases related to teachers' decision-making processes.

Further, it appears that the TC Program provides realistic experiences in applying concepts associated with research literature through the hands-on, self-analysis, and practicum type activities found throughout the courses. The program provides opportunities for participants to become aware of, to practice, and to incorporate into their teaching a variety of concepts and practices related to effective teaching processes.

Our analyses show, however, that despite the coverage in the TC Program there remain areas where improvements could be made:

1. The regular course offerings do not deal sufficiently with the area of expectations as they relate to minority and lingistically different students. However, a three-day June workshop on Teacher Expectations and Student Achievement (TESA), cosponsored by the Departments of Staff Development and Human Relations, provided training (a) on the effects teachers' expectations have on students' learning and (b) on 15 specific teacher/student interactions which are important in making these interactions a positive process. The concepts and skills used in the TESA training should be especially useful for teachers of minority and linguistically different students and should be incorporated into the regular TC series of courses.

2. Even though all of the TC courses have extensive reference lists, many of these lists need to include studies which will broaden participants' perspectives about research on effective teaching practices. Bibliography expansions should include work by those such as Brookover, Edmonds, Rutter, Good, Carnine, Kounin, Beckerman, Medley, Clark, Lewis, Borko, Cooney, Shavelson, and Peterson.

3. Concepts related to Academic Learning Time (ALT) should be incorporated into additional TC courses. The emphases of the pilot course TC-N: Academic Learning Time are both current and comprehensive. Features of the ALT framework and teaching functions should be included in other TC courses, such as TC-02, TC-09, and TC-15.

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ASSESSMENT OF THE MCPS TEACHER COMPETENCY PROGRAM IN LIGHT OF RECENT RESEARCH LITERATURE ON EFFECTIVE TEACHING PRACTICES

INTRODUCTION

The MCPS Teacher Competency (TC) Program is designed to assist teachers in improving their teaching skills. Through the courses in this program, teachers, specialists, and supervisory personnel receive training in various aspects of the teaching process. In response to a request from the Department of Staff Development, the Department of Educational Accountability (DEA) conducted an assessment of the TC Program in light of recent research findings regarding effective teaching techniques and skills.

The overall focus of the DEA study was to determine the degree to which the MCPS Teacher Competency Program includes factors found by recent research literature to promote effective teaching.* Within this focus, the following questions are addressed:

- What are the factors shown by recent research literature to promote effective teaching?
- What are the major emphases of the courses in the TC Program?
- Which TC courses, if any, contain emphases that relate to factors associated with effective teaching practices?
- What are the resultant conclusions and recommendations concerning the MCPS Teacher Competency Program?

In answering these questions, the following activities took place:

1. A literature search was conducted to identify major factors associated with effective teaching practices.
2. A detailed examination of each TC course was done to determine the emphases of the TC program.
3. Division of Career Program staff was consulted about the list of identified emphases for each course to confirm the DEA interpretation of objectives and concepts contained in the course manuals and to make adjustments, if needed. (See the appendix for the "Major Emphases of the MCPS Teacher Competency Program.")

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*It is important to note here that this study did not include determining whether all aspects and information in the TC Program were up-to-date but focused only on examining whether major factors associated with effective teaching practices were present in the program.

4. DEA staff then examined the course manuals and the identified emphases for each course to determine:

   a) Which TC courses contain emphases related to factors associated with effective teaching practices, and

   b) What conclusions/recommendations should be made concerning the TC Program for each of the five factors.

In interpreting the study findings, it must be kept in mind that no observations were made of actual course implementation nor were course participants interviewed. Rather, the scope of this study was limited to an examination of TC Program manuals.

FINDINGS CONCERNING THE TEACHER COMPETENCY PROGRAM AND
FACTORS ASSOCIATED WITH EFFECTIVE TEACHING PRACTICES

I. OVERVIEW

A. Teacher Effectiveness

To establish a framework for examining recent research on effective teaching practices, an operational definition of the phrase "teacher effectiveness" is needed. Review of the literature indicates that student achievement has been the major criterion of teacher effectiveness in recent research studies.

For example, in the Texas Teacher Effectiveness Project, Brophy and Evertson (1976) defined teacher effectiveness as "effectiveness in producing student learning gains." Good (1979) defined teacher effectiveness as "the ability of a classroom teacher to produce...gains on standardized achievement tests." Good also concluded that researchers have consistently been able to identify teachers who produce more student learning gains than other teachers.

Simply put, teacher effectiveness is a teacher's use of classroom practices that produce increases in student achievement. Effective teachers are considered to be those whose students show learning gains. While some may quarrel with a definition which focuses so narrowly on achievement, it is the prevailing one in the literature and will provide the frame of reference for the analyses presented here.

B. Summary of Factors Associated with Effective Teaching Practices

Recent research on effective teaching practices provides several suggestions regarding factors affecting student achievement. It must be pointed out, however, that the data do not support a causal relationship between the teacher behavior(s) examined and student academic success. Nevertheless, the correlational data which have emerged, though nonconclusive, can be useful. It is within these constraints that a summary of factors is presented.

Teachers do make a difference, and it appears that the ones who do owe their success to some consistent differences in teacher behavior, such as the following:

1. High teacher expectation for student learning
2. Classroom managerial abilities
3. Allocation of much time to academics with high student time on task for successful learning of content
4. Direct instruction practices
5. Use of the decision-making process to determine the best technique to use for a particular classroom situation at a particular time

Each of these factors will be discussed in detail; however, some cautions should be noted. As stated earlier, although the literature supports the importance of these factors, the research designs suffer from a number of weaknesses in approach. In addition, a large proportion of the research involved low-achieving students, rather than students having a wide range of abilities. Students in many of the studies came from a low socioeconomic background. With few exceptions, the research was conducted at the elementary school level. Also, some studies were a review of previous studies, rather than original research. The research factors discussed in the sections which follow are to be approached with these caveats in mind.

C. Teacher Competency Program

Examination of the TC Program in light of recent research reveals that the program contains many concepts reflecting the current research findings. Every course in the TC Program addresses at least one of the major factors which the literature associates with effective teaching practices.* (See Exhibit 1.) Four TC courses emphasize teaching practices related to teacher expectations; five courses, management skills; one course, engaged time/academic learning time; and six courses, direct instruction components. All of the TC courses contain emphases related to teachers' decision - making processes.* (See Exhibit 2.)

In general, it appears that the TC Program provides realistic experiences in applying concepts associated with research literature through the hands-on, self-analysis, and practicum type activities found throughout the courses. Experiences such as these tend to agree with a finding of the February, 1982, study on "Evaluation of MCPS In-service Training" concerning principals' opinions of county in-service courses. In that study, most principals surveyed reported that, when comparing university and MCPS courses, they frequently felt the MCPS courses were less theoretical and contained more emphasis on a hands-on approach. Our analyses show, however, that despite the coverage in the TC Program regarding the research factors there remain areas where improvements could be made. In the next sections of the report, details are presented regarding both the research literature and the TC courses themselves.

*The content of TC-M: Performance Contract Follow-up Module depends upon the teaching behaviors and/or theories which a teacher contracts to expand upon. Therefore, emphases could involve any one--or a combination--of the factors.

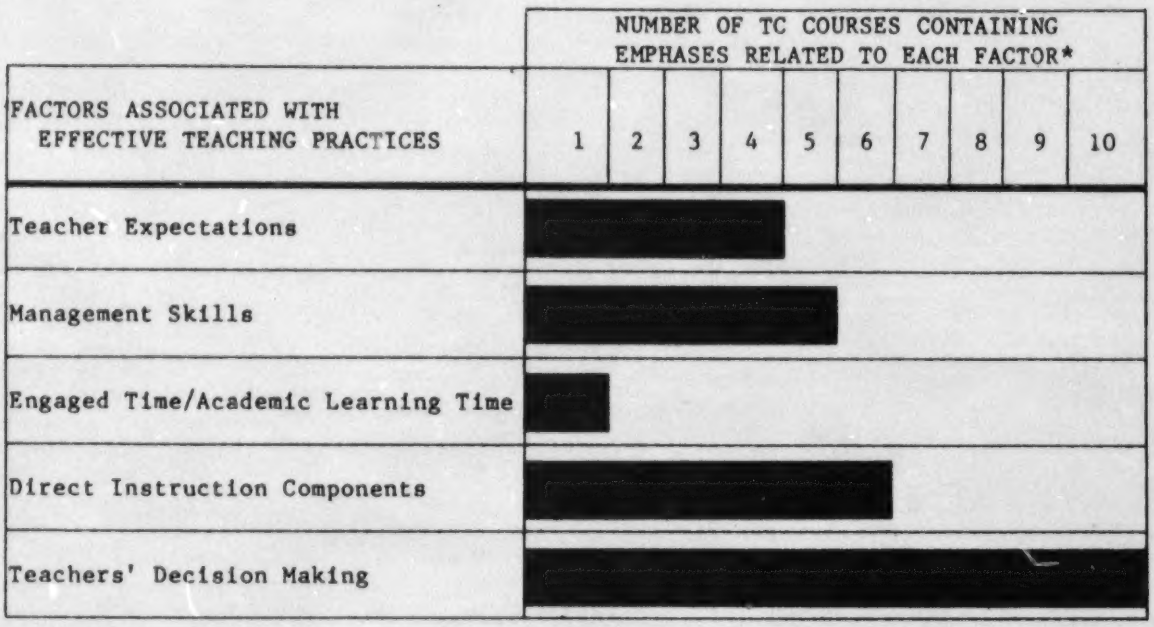
EXHIBIT 1

Teacher Competency (TC) Program Courses Which Contain Emphases Related to Major Factors Recent Research Literature Associates with Effective Teaching Practices

COURSES IN TEACHER COMPETENCY (TC) PROGRAM	MAJOR FACTORS ASSOCIATED WITH EFFECTIVE TEACHING PRACTICES				
	Teacher Expectations	Management Skills	Engaged Time/ Academic Learning Time	Direct Instruction Components	Teachers' Decision Making
TC-02: Analysis of Teaching	X	X		X	X
TC-09: Preparing Student Objectives and Assessment Measures				X	X
TC-10: Supervisory Skills	X	X			X
TC-12: Teaching Strategies		X		X	X
TC-15: Motivation and Management of Learning	X	X			X
TC-16A: Teaching the Gifted in the Regular Classroom					X
TC-16B: Summer Institute for Teaching Academically Talented Students	X				X
TC17: Individualizing Instruction		X		X	X
TC-18: Diagnostic Techniques for the Regular Classroom				X	X
TC-N: Academic Learning Time			X	X	X
TC-M: Performance Contract Follow-up Module	Note: This course could involve one--or a combination--of these factors, depending upon the teaching behaviors and/or theories a teacher contracts to expand upon.				

EXHIBIT 2

Number of Teacher Competency (TC) Courses
Containing Emphases Related to Each Factor Associated with
Effective Teaching Practices



*There is a total of eleven TC Courses. One course TCM: Performance Contract Follow-up Module is not included here because the emphases of this course depend upon the teaching behaviors and/or theories a teacher contracts to expand upon.

II. TEACHER EXPECTATIONS

A. Research Literature

The phrase "teacher expectations" refers to inferences which teachers make about their students' ability/achievement level and classroom behavior. Brophy and Good (1974) found that "teachers' specific expectations regarding individual students...exert influences upon classroom interaction and instructional style." After examining the ways teacher expectations affect student-teacher classroom interactions, they concluded that it is possible for teachers' expectations to act as self-fulfilling prophecies. A self-fulfilling prophecy in this context is, basically, a teacher's expectation which, though initially false, leads to a series of classroom interactions that make the original expectations become true.

Teachers communicate expectations for students in many indirect ways. Brophy and Good (1974) give some examples: "The teacher waits patiently for a response from one student but gives up easily with another; he expresses encouragement and confidence to one but says, 'well, at least try' to another; he calls on one for hard and challenging questions but calls on another for only easy questions; he encourages one to 'think,' but tells another to 'take a guess.'" Rutter, et al., (1979) reported that (1) students quickly pick up someone else's expectations about them--both as to their academic ability and as to their behavior; (2) teachers' expectations do influence students' academic progress; and (3) teachers' attitudes and actions which convey expectations that students can learn appear to influence students' success in learning tasks.

Research by others has also provided support for the influence of teachers' positive expectations on students' achievement. Rosenthal and Jacobson (1968) found that students of a teacher who believed them to be intelligent appeared to improve significantly on their schoolwork. Benjamin (1980) reported that high student performance took place where high teacher expectations existed. In the Search for Effective Schools project, Edmonds (1978) sought to identify characteristics which singled out schools that were instructionally effective for poor children. One characteristic which was found to contribute to instructional effectiveness was a climate in which all students were expected to attain at least minimum achievement levels. A study done by Brookover and Lezotte (1979) for the Michigan Department of Education looked at differences between schools improving and declining in basic skills performance. The findings show that staff in the improving schools (1) held high expectations about the learning ability of their students and (2) believed that all their students could master the basic objectives. Weber (1971) also documented the importance of teachers' high expectations for students. However, his study additionally pointed out that, while high expectations alone were not sufficient for school success, they were indeed a needed ingredient.

B. Teacher Competency Program

Four TC courses address expectations. These courses are TC-02: Analysis of Teaching; TC-10: Supervisory Skills; TC-15: Motivation and Management of Learning; and TC-16: Summer Institute for Teaching Academically Talented Students.

In TC-02, teachers are involved in not only self-analysis but also analysis of other teachers, as well as the analysis of video and reading materials. Through these analyses, participants identify indirect ways expectations are communicated and then have the opportunity to practice nonverbal and verbal actions which convey positive expectations. In two of the fifteen TC-02 sessions, research on teacher effectiveness is reviewed. References by Dunkin, Biddle, Brophy, Evertson, Rosenshine, and Good are among those used in the course.

Even though TC-10 centers on conferencing styles and strategies, attention is also directed to verbal and nonverbal ways teachers show their expectations and to the effects these expectations have on students and on classroom instruction. During the instructional/supervisory conferences used in TC-10, participants examine observations to determine, for example, which teaching methods showed positive or negative teacher actions, how students responded to them, and what the classroom implications are.

Course content of TC-15 includes identifying factors involved in teacher expectations and applying teaching strategies which promote positive teacher expectations. Participants are also asked to apply concepts and techniques which promote student self-concepts and expectations. In one of the fifteen course sessions, handouts on "Self-Fulfilling Prophecy," "Teacher Expectations and Student Achievement," and "Legacy of Pygmalion in the Classroom" are used by participants.

An important concept in the TC-16B ten-day summer institute is to select teaching strategies which promote positive behaviors and help students reach their potential. Participants develop lessons based, in part, on this concept. Through the differentiated activities used in these lessons, participants plan teaching activities which promote a climate of positive experiences and expectations for students.

C. Conclusions and Recommendations

1. The factors related to teacher expectations presented in these four courses are primarily up-to-date.

2. While there is no TC emphasis on teacher expectations for minority students *per se*, Staff Development and Human Relations cosponsored training opportunities for teachers on Teacher Expectations and Student Achievement (TESA) this summer. This three-day June workshop provided training (a) on the effects teachers' expectations have on students' learning and (b) on 15 specific teacher/student interactions which are important to the process. The concepts and skills presented in the TESA training should be especially useful for teachers of minority and linguistically different students. Staff Development should

consider incorporating TESA concepts into the regular TC series of courses as they are revised or as new courses are added.

3. Although participants review some of the research literature and are given cautions concerning drawing conclusions, it should be helpful to expand the literature with research efforts by Brookover, Edmonds, and Rutter. Works by these authors could provide additional insights about the expectations which a teacher's verbal and nonverbal actions communicate to students about their self-perceptions and learning abilities.

III. MANAGEMENT SKILLS

A. Research Literature

Good (1979) found that teachers' managerial abilities related positively to student achievement; i. e., teachers who are able to structure, maintain, and monitor the learning activities of students definitely have an advantage in the teaching of basic skills. He also stated that research findings strongly link student academic success with teachers who run their classrooms with minimal disruption and maximal student-task-involvement. Such classroom management requires detailed preinstructional planning by the teacher. Rutter (1980) identified teachers' use of management skills which increase student on-task behavior and attention as an important school feature that promotes student success. In their examination of managerial features of teaching, Carnine and Silbert (1979) encouraged the use of teacher signals as a management tool. A signal such as the number of times the teacher "snaps his/her fingers" can let students know, for example, which group of three is to participate in the next phase of a lesson. That could allow as many students as possible a chance to participate and could keep only a few students from dominating an instructional activity.

A teacher's ability to monitor simultaneous events is an important factor not only in maintaining classroom discipline but also in increasing achievement. Kounin (1970) called this ability (1) "with-it-ness" and (2) "overlapping" which deal with a teacher's communicating to students that he (1) knows what is going on in the classrooms and (2) can deal with more than one issue at the same time. In addition, he found that, while the mastery of classroom management skills is not an end in itself, these skills are necessary tools which enable a teacher to do different things simultaneously and which make choices possible so that the instructor can accomplish the learning outcomes.

B. Teacher Competency Program

Five courses in the TC Program include content which relates to management skills. These courses are TC-02: Analysis of Teaching; TC-10: Supervisory Skills; TC-12: Teaching Strategies; TC-15: Motivation and Management of Learning; and TC-17: Individualizing Instruction.

Observation systems used in TC-02 as techniques for self-evaluation help participants examine their classroom management performance. For example, participants tape an episode of their own teaching which is then coded and analyzed as to (1) implementation of an instructional plan; (2) teacher responses used to maintain student attention; (3) techniques used to bring about a cooperative class; and (4) a classroom system which provides organization and direction for individuals and groups performing several tasks simultaneously. These types of TC-02 activities make teachers aware of and encourage them to use skills which strengthen their management techniques, such as "with-it-ness" and "overlapping." Similarly, through the use of tapes and role play of postobservation instructional conferences, participants in TC-10 can identify effective management skills and explain why there were

successful. This provides them the opportunity to see, as well as to practice using, skills which increase classroom management, e.g., the technique of moving over to stand beside a student who is not listening or of dealing with more than one issue at the same time.

The major thrust of the TC-12 course is teachers' planning for and using classroom activities which require students' use of many types of thinking. This planning and implementation involve teachers' use of management skills to structure and maintain learning activities which provide for minimal disruption and maximal student attention and task involvement. Through practicing "thinking strategy" skills in peer teaching situations, TC-12 participants can gain insights both about teaching strategies and about management skills.

Several activities used in TC-15 require that teachers identify and analyze management situations observed in the classroom. Participants are then provided practice situations. They analyze these to determine the type(s) of management skill(s) which would promote student attention and involvement. Major phases of TC-17, also, center around management skills. The importance of a structured management system is stressed in this course as a means of bringing together areas such as discipline, physical facilities, and student motivation in individualizing instruction. Participants examine classroom management practices; determine their weakest and strongest management technique(s); and adopt or adapt management skills by which they can structure, maintain, and monitor individualized instruction activities of students.

C. Conclusions and Recommendations

1. These five courses contain features which reflect recent findings regarding management skills.

2. Even though there are course features which dovetail with the management skills factor, the course reference lists do not reflect this and should be updated. For example, (a) nearly all of the references in TC-12 relate to the thinking process and cognitive teaching strategies, but management skills are an implicit part of matching strategies to learning situations; and (b) management is stressed throughout TC-17; however, the references concentrate on the individualization of instruction. The bibliographies for these five courses should, therefore, be expanded to include work by Rutter, Good, Carnine, and Kounin regarding teachers' managerial abilities and techniques.

IV. ENGAGED TIME/ACADEMIC LEARNING TIME

A. Research Literature

Current research on teaching includes a focus on how students actually spend time during instruction, i.e., opportunity to learn (allocated time), attention to task/time on task (engaged time), and time on task with appropriate level(s) of content (academic learning time). More formally, these three elements of use of classroom time are defined as follows:

1. Allocated time -- The time for which a teacher assigns or selects instruction in a particular subject

2. Engaged time -- The time during which a student is paying attention to instruction in a particular subject

3. Academic learning time (ALT) -- The time during which a student is both paying attention to and having success with instructional materials or activities

Teachers who provided for more academic learning time were found to be more effective teachers than those who did not. (Berliner, 1979; Doyle, 1979; Fisher, 1979; Heilman, et al., 1981; Peterson and Walberg, 1979)

Based on a study of school effectiveness, Edmonds (1979) found evidence of the positive influence of more time spent on academic content in a task-oriented classroom atmosphere. Good and Beckerman (1978) reported that high achievers spent more time on-task than low achievers. Rosenshine and Berliner (1978) also cite the need for adequate time on learning tasks if students are to be successful in school.

The amount of time spent on academics seems to be an important factor for student success. Teachers, therefore, need to set up a schedule of their use of classroom time and to follow through on that schedule. Students would then not lose valuable time during instruction or during transition activities. (Carnine and Silbert, 1979)

Throughout the 1970s, the research on teaching encouraged classroom practices in which teachers allocated more time to academic subjects and in which students were engaged in tasks suited to their ability levels. Findings from studies such as the National Follow Through Observation Study indicated that student learning depended, to a large extent, upon how classroom time was used. Amount of time spent on academic content or academic verbal interactions was found to be related to achievement. (Stallings, 1980) The idea of Academic Learning Time (ALT) was initiated by the Far West Laboratory in the Beginning Teacher Evaluation Study (BTES) carried out by Berliner, Cohen, Filby, Fisher, Marliave, and Moore.

This study, made up of a multiyear series of substudies, has provided a comprehensive effort to describe teaching and learning, based on in-class observations of teachers' and students' activities. In the BTES learning framework, students' activities are central to their learning. Time is needed for the learning process to take place. Therefore, when students

are actively engaged in learning, i.e., paying attention, studying, trying to learn, they are considered to be gaining knowledge of the subject involved. Furthermore, it was found that not only the amount of engaged time but also the student-task "match" influenced student learning. If the level of difficulty of a task "matched" the student's learning level, resulting in many correct responses by that student, then he was thought more likely to be learning. Thus, the BTES measure of student learning refers to the amount of time spent by a student on a task which is performed by the student with "high success." The term high success is defined by BTES researchers as meaning that a student makes only occasional careless errors on a task. (Denham and Lieberman 1980; Fisher, et al., 1979; Fisher, et al., 1980; Powell, 1980; Romberg, 1980)

The BTES, with its Academic Learning Time (ALT) framework, has been an important contribution to the study of teaching. The investigators have presented the components not only of ALT but also of teaching processes which they believe will result in increases in ALT. These processes consist of five interrelated teaching functions: diagnosis, prescription, presentation, monitoring, and feedback. The five functions present a type of diagnostic-prescriptive procedure in which the product is engaged time that leads to student success. There are two major categories for these teaching functions: instructional planning and instructional interaction. The planning phase consists of (1) diagnosis (e.g., recognizing strengths and weaknesses of students) and (2) prescription (e.g., identifying specific objectives and activities to help the students). The interaction phase consists of (1) presentation (e.g., giving directions/information or explaining), (2) monitoring (e.g., examining the evidence of a student's performance), and (3) feedback (e g., informing a student about performance/behavior). The BTES pointed out that, while these teaching processes assist student learning, there is a wide variety of acceptable ways in which they can be carried out. (Block, 1980; Borg, 1980; Fisher, et al., 1980; Romberg, 1980)

B. Teacher Competency Program

One course, TC-N: Academic Learning Time, which is in the pilot stage this year, directly relates to engaged time/academic learning time. The concepts and activities in this course provide participants with both research background and course structure for examining and using (1) the instructional functions in the Beginning Teacher Evaluation Study (BTES) and (2) the Academic Learning Time (ALT) framework. For example, participants do assignments which involve (1) comprehensive review of BTES findings, (2) detailed work with definitions of terms which are important features of the ALT model, (3) activities and handouts on the five teaching functions associated with ALT, and (4) evaluation and coding of videotaped lessons. As a result of these experiences, a TC-N participant gains a foundation for using the BTES five teaching functions (diagnosis, prescription, presentation, monitoring, and feedback) to provide students with time-on-task for learning activities at which they can succeed.

C. Conclusions and Recommendations

1. The TC-N course presents concepts which directly relate to engaged time/academic learning time and which are up to date.

2. The references are comprehensive ones for BTES and ALT; however, some studies of a more general nature on the influence of amount of time spent on academic content should be added to the bibliography, such as work by Carnine, Silbert, Edmonds, Good, Beckerman, and Peterson.

3. Other TC courses, such as TC-02, TC-09, and TC-15, should include features of the ALT framework and teaching functions provided by TC-N.

V. DIRECT INSTRUCTION

A. Research Literature

Recent large scale field studies which focus on teachers considered effective suggest that direct instruction increases student achievement. (Good, 1979) In the direct instruction process, teachers (1) focus on specific objectives; (2) cover extensive content; (3) provide tasks that require student attention; (4) structure learning activities around selective use of instructional materials; (5) monitor student progress on a regular basis; (6) provide ongoing feedback of an academic nature; and (7) provide a task-oriented, but relaxed, classroom setting. (Rosenshine and Berliner, 1979; Peterson and Walberg, 1979; Brophy, 1979; Carnine and Silbert, 1979; Clark, et al., 1980; Rosenshine, 1980; Rutter, 1979; 1980; Heilman, 1981)

The value of direct instruction is supported by research on the classroom activities of teachers who had been identified as effective because their students made good achievement gains (Ebmeier and Good 1979; Carnine and Silbert, 1979; Good, 1979; Heilman, et al., 1981). A review of research on teacher effectiveness conducted by Medley (1977) clearly showed the positive influence of direct instruction on pupil achievement. Lewis (1982) stated that there were increased chances that learning would be improved when direct instruction was used by the teacher. In the Follow Through study, students in a direct instruction approach consistently outperformed control students on basic skills measures (Carnine and Silbert, 1979). In addition, the Follow Through study showed direct instruction to be beneficial to low- and middle-income students (Guthrie, 1977).

Although many direct instruction investigations focused on low-income or elementary grade students, some of the literature reported positive associations with other types of students across grade level (Tickunoff, et. al., 1976; Stanford Program on Teacher Effectiveness, 1976; Becker and Englemann, 1976; McDonald, 1976; Good, 1979). However, while it appeared that low-ability students might need the greater structure of a direct approach to instruction, Peterson (1979) found that high-ability students benefited from the opportunity to work with other students in a less structured approach, rather than a direct one. According to Brophy (1979), recent findings about direct instruction can apply to higher grade levels and different kinds of students when basic skill mastery is the primary goal. In other words, the teaching process to be used depends upon the objective(s) and student outcome(s) to be attained (Peterson, 1979). Good (1979) concluded that--when used within appropriate classroom requirements--direct instruction could be a model of value to educators.

B. Teacher Competency Program

Six TC courses include content related to direct instruction components. These courses are TC-02: Analysis of Teaching; TC-09: Preparing Student Objectives and Assessment Measures; TC-12: Teaching Strategies; TC-17: Individualizing Instruction; TC-18: Diagnostic Techniques for the Regular Classroom; and TC-N: Academic Learning Time.

In TC-02, participants identify and categorize teacher behaviors through observation of films or live demonstrations. This gives them opportunities to determine whether, for example, the teacher behaviors they observed included focusing on objectives, monitoring progress, and providing a task-oriented but relaxed classroom setting--features of direct instruction.

The TC-09 course reflects many of the components of direct instruction. Participants in this course are required to submit lesson plans and units which provide (1) logically sequenced objectives keyed to the learning levels of students and (2) assessment measures used to monitor the progress of and give feedback to students. These tasks fit together well with the direct instruction phases of focusing on specific objectives, structuring learning activities through selective use of instructional goals, monitoring student progress on a regular basis, and providing ongoing feedback of an academic nature.

Logical structuring of learning activities is a major idea of direct instruction. The TC-12 course also recognizes the importance of sequencing of instruction. Assignments involve the participants' designing lessons which have logical patterns. Handouts on hypothetical classroom situations are used to help participants practice this skill.

One feature of TC-17 is developing strategies for feedback to an individual student about his/her learning tasks. Such ongoing academic feedback to students is a major feature of direct instruction. Individualized instruction requires the use of some types of feedback technique(s) by which students can be kept informed of their attainment or nonattainment of objectives. Among these techniques are record-keeping methods, learning activity packages, student contracts, and learning centers or stations. Four of the fifteen sessions in TC-17 are devoted to examining and practicing the making and use of these types of feedback devices.

The "Diagnostic Teaching Model" used in the TC-18 course contains characteristics which are present in the Carnine and Silbert and the Dunkin and Biddle models of direct instruction. The TC-18 model is based on an assessment-instruction approach; i.e., it includes assessing needs, establishing/selecting objectives, monitoring student progress, and giving students feedback on attainment of objectives. Through readings and exercises, participants practice both the diagnostic process and the methods which can be used to determine learning strengths and weaknesses of students.

The instructional planning and instructional interaction features of the Academic Learning Time (ALT) Model used in TC-N contain teaching functions which are present in the instructional processes of direct instruction. Through (1) the reading of research-based handouts and references, (2) explaining lessons taught in their own classrooms, (3) sharing simulation activity, and (4) coding teacher/student activities and interaction seen in videotapes of their school classes, participants have experiences with instructional procedures needed to bring about changes in their own teaching functions. This TC-N focus strengthens the diagnostic, prescriptive, presentation, monitoring, and feedback skills of participants.

C. Conclusions and Recommendations

1. Six courses address the direct instruction model and are also up-to-date in content.

2. Nonetheless, the course bibliographies do not contain sufficient works on direct instruction. This is true especially for TC-09, TC-12, TC-17, and TC-18. Even though TC-02 does contain research on teacher effectiveness, it does not have works on direct instruction itself. Studies by Medley, Clark, Rosenshine, Berliner, Brophy, and Lewis should be added to broaden participants' research perspectives.

VI. DECISION MAKING

A. Research Literature

Research shows that teaching is not merely the performing--over and over--of any one, special set of specific "right" actions. Teaching is a complex task in which teachers continually need to make decisions as to which instructional technique is best to use when, how, and with whom (Powell, 1979). This decision making is a major ingredient of the teaching act, diffuses through the other factors associated with effective teaching practices, and permeates the selection and implementation of teaching strategies.

Examination of teachers' decision making is a recent development in research concerning effective teaching. Rather than study only the process of teacher and student behaviors, several researchers have begun studying the process involved in teacher thinking and decision making. Such researchers state that effective teaching is the result of choices made through a teacher's decision-making process. In this approach to the study of teaching, the emphasis is on teachers' processing information and making judgements/decisions, i.e., what and how teachers think. (Clark and Yinger, 1979; Peterson and Walberg, 1979)

In the view of teaching as a decision-making process, the teacher is an "active agent" who selects a particular strategy to help students reach some outcome. Teachers, therefore, need to integrate a large quantity of information gathered from a wide variety of sources to decide which instructional strategy, of all available alternatives, is appropriate to a specific learning task. The teacher constantly assesses the situation, processes information about the situation, makes decisions about what to do next, guides action on the basis of these decisions, and observes the effects of this action on students. (Borko, et al;, 1979; Clark and Yinger, 1979)

Shavelson (1973) stated, "Any teaching act is the result of a decision, whether conscious or unconscious, that the teacher makes after the complex processing of available information." He hypothesized that decision making is the basic teaching skill. According to Shavelson (1973, 1976) alternative teaching strategies (e.g., questioning, explaining, and reinforcing) had been examined by previous research on teaching, but how teachers chose between one or the other teaching act at a particular time or in a particular situation had not been examined. In his view, teachers have a number of alternative actions from which to choose; this enables researchers to examine teachers' decisions from the decision theory perspective. He, therefore, supported using decision theory to examine the decision-making process of teachers.

Peterson, Marx, and Clark (1978) conducted research related to the question: "What kinds of decisions underlie teacher behavior in the classroom?" Their research identified and distinguished between two kinds of teacher decisions: planning decisions and interactive decisions. They found four teacher planning features which are implicit in the decision-making process: (1) selecting educational objectives, (2) diagnosing student characteristics, (3) choosing instructional strategies to help students attain certain outcomes, and (4) selecting the type(s) of classroom assessment techniques to be used to monitor student learning. Using audio- and videotapes, Peterson and Clark (1978) studied teachers'

thinking during classroom interaction with students. This examination of decision making described the process as one of (1) observing student actions, (2) making a judgement as to whether students appeared to be paying attention; and (3) following up with a decision to continue the teaching activities unchanged or to search one's memory for alternative teaching strategies that could better assist student learning.

Similarly, Cooney (1981) stated that teaching consisted of two basic phases, which he called "proactive" and "interactive." His explanations of these two phases closely resemble those given immediately above. Cooney's "proactive" phase involves the things teachers do before they begin interacting with students, e.g., making lesson plans and selecting strategies of presentation. His "interactive" stage consists of the classroom interactions that take place between the teacher and the students, e.g., using alternatives when an incorrect or exceptionally perceptive answer is given by a student, responding to "clues" that a lesson is not going well, and deciding how long to wait for a student to answer. According to Cooney, teachers need to be able to decide which alternative, among those possible, is the best one to use. A "wise" decision depends upon a teacher's ability to consider the possible alternatives in a specific situation for a specific student. He also states that such decision-making ability is essential for a teacher to be flexible and creative.

Recent research supports the view that, if teachers are made more aware of their own decision-making process, they might sharpen their ability to make effective decisions. A teachers' awareness of the decision-making process can provide the "boost" for consciously considering alternatives and can lead to expansion of his knowledge base of ideas used in producing alternatives. To gain insights about the relationship between teacher planning (organization for classroom interaction) and subsequent teacher action (interactions which promote student involvement and learning), there is need for further research on the ways in which teachers' decision making affects teacher effectiveness. Such future research may yield new insights concerning effective teaching. (Borko, et al., 1979; Clark and Yinger, 1979; Cooney, 1981; Peterson, 1979; Peterson and Walberg, 1979)

B. Teacher Competency Program

All of the courses in the TC Program place some emphasis on teachers' decision making. The concepts and skills provided in each course for participants are presented in the discussion which follows.

TC-02 expands decision-making skills of participants through the use of observation systems both for self-appraisal and for peer appraisal of teaching practices. Observations and supervisory conferences provide practice in identifying and analyzing alternative teaching choices and strategies based on objective data. Such analyses help teachers realize, on a personalized basis, their decision-making role in revising instructional plans to meet the specific needs of a specific situation.

Planning decisions--decisions teachers make before they begin interacting with students, i.e., making lesson plans--have been found to be a main point in the teacher decision-making process. Among the features included in this planning stage are the selection of objectives and of types of classroom assessment methods to be used for monitoring student progress and providing feedback. The TC-09 participants not only construct and

critique objectives and assessment measures but also collect and analyze data on specific objectives and assessment measures to analyze whether, and to what extent, they match the learning levels of students.

In teaching, it is necessary to consider alternative choices, i.e., teachers make decisions about which instructional technique to use when and with whom. Through simulations and examination of conference situations, TC-10 participants (1) have an opportunity to develop alternatives they may not have known about or considered before, (2) gain experience in finding alternatives to teaching behaviors that were not as successful as they should have been, and (3) practice determining what made a teaching action effective or not effective--all features of teachers' decision making.

The TC-12 course also provides participants with learning situations which allow them to compare various strategies and gain decision-making experience. Concepts in this course strengthen the idea that teachers (1) should have a "repertoire" of methods and approaches, (2) should determine the teaching techniques needed for a particular group or student, and (3) should become strategy decision makers.

Similarly, in TC-15, participants analyze techniques and methods used in role-played behavior, as well as the teacher's interaction patterns for classroom environment and discipline. Through the use of filmstrips, readings, and exercises, participants analyze behavior management situations, their implications for classroom instruction, and the alternatives from which to choose a workable technique.

A major idea in the TC-16A course is that "teachers should strive to integrate into the classroom program a variety of activities which will promote thinking skills in problem solving and logical reasoning." Participants in the course, therefore, make choices about which problem-solving techniques are useful ones. Course exercises, readings, and models are used to help increase participants' decision-making skill.

TC-16B addresses both the planning decisions and the interactive decisions which underlie teacher behavior in the classroom. Course participants gain a practicum type of experience in diagnosing student characteristics; choosing from alternative strategies the ones which will help those students attain desired outcomes; observing student actions; and making judgements about whether the students appear to be learning or whether they would benefit from the use of some other instructional method.

A teacher's decision-making process involves continually assessing the situation, processing information about that situation, deciding what is to be done next, and observing the student and teacher interactions which result. Such a process provides a framework within which one can examine, identify, and indeed improve one's classroom management skills through decision-based selection of alternative teaching methods. The TC-17 course provides participants with an opportunity to engage in this type of self-appraisal.

Participants in the TC-18 course practice a variety of procedures for assessing students. These assessments provide diagnostic basis for learning activities. In the decision-making process, there is a constant awareness that alternatives need to be considered and choices need to be

made. That process, therefore, helps the participants examine their own diagnostic strategies and determine the suitability of the choices made about students.

TC-N highlights the idea that teachers' systematic analysis of their own classroom teacher-student interactions is a vital part of their ongoing instructional decision making. In the Academic Learning Time (ALT) framework, the fact that the teacher is a decision maker is evident throughout the instructional interaction cycle. For example, in the videotape analysis, the TC-N participants decide whether a presentation is clear and whether students are successful at the tasks. Based upon that information, participants then make choices about what to do next.

C. Conclusions and Recommendations

1. These ten courses contain a variety of current content which relates to decision making.

2. Although each of these courses includes teachers' decision making, reference lists lack readings concerning this factor. The bibliographies should be expanded to include studies by authors such as Shavelson, Peterson, Borko, and Cooney. Their work presents the importance of the teacher's role as a decision maker and discusses basic phases involved in the decision-making process.

VII. OVERALL IMPLICATION OF FINDINGS

The current TC Program contains a series of courses that relate to major factors which recent research associates with effective teaching techniques and skills. These courses provide opportunities for participants to become aware of, to practice, and to incorporate into their teaching a variety of concepts and practices related to effective teaching processes. Bearing in mind the conclusions and recommendations contained in this assessment, as well as the cautions pointed out earlier regarding research efforts, the Department of Staff Development should continue its reviewing and updating of the TC Program to reflect new developments in effective teaching.

APPENDIX

MAJOR EMPHASES OF THE MCPS TEACHER COMPETENCY PROGRAM

In assessing the extent to which the MCPS Teacher competency (TC) Program promotes factors associated with effective teaching practices, the major emphases of this program need to be identified. A detailed examination of the TC courses reveals the following aspects of the teaching process to be those emphasized in specific courses of the program:

TC-02: ANALYSIS OF TEACHING

- o Describing/discussing research on teacher effectiveness
- o Developing skill in analyzing classroom instruction
- o Identifying and categorizing teacher behaviors that occur in the classroom
- o Analyzing own teaching performance in areas such as planning, management, student and teacher interactions
- o Observing other teachers' teaching and analyzing those teaching practices
- o Identifying, classifying, and practicing teaching techniques/skills, such as nonverbal skills, indirect/direct teacher behavior, and positive reinforcement

TC-09: PREPARING STUDENT OBJECTIVES AND ASSESSMENT MEASURES

- o Constructing student objectives which vary from simple to complex learning levels for the cognitive and affective domains
- o Writing assessment measures for specified student objectives
- o Critiquing selected student objectives and assessment measures
- o Measuring level(s) of student attainment
- o Collecting and analyzing data on specified student objectives and their corresponding assessment measures
- o Giving students feedback on their progress
- o Determining the appropriateness of objectives and assessment measures in a particular content area for specific students

TC-10: SUPERVISORY SKILLS

- o Identifying teaching behaviors which promoted learning in an observed classroom situation
- o Encouraging teachers to generate alternative teaching practices/techniques
- o Promoting instructional practices considered to be effective ones
- o Using clear communication skills to provide observation feedback to teachers
- o Using supervisory conferences to improve teachers' instructional practices
- o Developing general supervisory skills that support and are consistent with MCPS goals

TC-12: TEACHING STRATEGIES

- o Organizing a logical pattern in sequencing instruction
- o Enlarging a teacher's repertoire of instructional strategies related to students' cognitive growth (inductive, deductive, and productive thinking)
- o Identifying factors to be considered in matching strategies and classroom situations
- o Matching strategies to a variety of teaching/learning situations
- o Comparing various strategies to determine/assess which one(s) should be used at a particular time in a particular subject/setting for specific students
- o Gaining experience in becoming a decision maker to promote student learning

TC-15: MOTIVATION AND MANAGEMENT OF LEARNING

- o Applying motivational techniques to own classroom
- o Charting specific student behaviors
- o Applying management techniques to role-played situations
- o Analyzing motivational reinforcers designed to modify individual behaviors
- o Identifying factors involved in teacher expectations
- o Applying strategies related to positive teacher expectations
- o Applying academic and nonacademic strategies to enhance self-concept in classroom
- o Identifying teacher-pupil communication patterns
- o Simulating demonstrated listening skills
- o Applying appropriate motivational and management techniques in a student case study

TC-16A: TEACHING THE GIFTED IN THE REGULAR CLASSROOM

- o Recognizing characteristics of gifted and talented students
- o Identifying gifted students
- o Recognizing teaching behaviors to be used with gifted students
- o Demonstrating ability to plan and execute problem-solving-centered instruction which includes logical reasoning and creative processes
- o Developing/adapting content and instructional strategies to provide differentiated instructional activities

TC-16B: SUMMER INSTITUTE FOR TEACHING ACADEMICALLY GIFTED STUDENTS

- o Practicing and analyzing teaching techniques that promote productive thinking
- o Preparing and teaching a differentiated lesson in a laboratory situation
- o Describing characteristics of cognitively gifted students
- o Formulating instructional implications from learner traits of gifted student(s)

- o Making decisions about content, instructional strategies, and learning patterns for classroom instruction of gifted
- o Focusing on teacher behavior that nutures creativity in the classroom
- o Selecting teaching strategies that foster positive behaviors

TC-17: INDIVIDUALIZING INSTRUCTION

- o Examining existing classroom management practices in terms of learning goals and individual student progress
- o Devising, explaining, and evaluating classroom management techniques which take into account physical facilities, student motivation, materials, activities, student movement, and teacher time
- o Explaining the relationship among record keeping,classroom management, and individual student progress
- o Appraising own management competencies to identify areas for improving
- o Developing strategies that facilitate feedback to an individual student about his/her learning tasks
- o Applying management concepts to own classroom situation

TC-18: DIAGNOSTIC TECHNIQUES FOR THE REGULAR CLASSROOM

- o Identifying and using characteristics/components of the TC-18 "Diagnostic Teaching Model" which is based on an assessment-instruction approach (i.e., it includes assessing student needs/attainment, establishing objectives, monitoring student progress, and giving students feedback)
- o Appraising own use of diagnostic techniques
- o Identifying students' learning strengths and relating them to curricular objectives to help students experience success

TC-N: ACADEMIC LEARNING TIME

- o Reviewing the history of the "use of instructional time"
- o Analyzing findings of the Beginning Teacher Evaluation Study (BTES)
- o Defining terms germane to the concept of Academic Learning Time (ALT)
- o Describing how ALT differs from time-on-task as to focus on student success rate
- o Identifying and coding the BTES interactive teaching behaviors
- o Practicing calculation of ALT
- o Developing and using instructional strategies for improving ALT
- o Analyzing the use of ALT in a classroom setting (including teacher's own classroom)

TC-M: PERFORMANCE CONTRACT FOLLOW-UP MODULE*

- o Involving teachers in developing an open-ended framework to provide them with more personalized training and guidance
- o Enabling teachers to expand upon and practice more extensively the teaching behaviors and theories studied in any of the TC courses that they have has completed.
- o Promoting high expectations for teachers by requiring them to apply the content learned in one or more TC courses to the context of their teaching assignment

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*Content of this course depends upon the teaching behaviors and/or theories the teacher contracts to expand upon.

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